

AMENDMENT UNDER ART. 34 PCT

Claims

Sub B' 1. (After Amendment) A gas turbine unit comprising a compressor to compress and discharge gas, a combustor which the gas compressed by the compressor is fed to, and a turbine to be driven by the combustion gas of the combustor;

wherein said gas turbine unit has a turbine-cooling system to feed the gas from said compressor to the turbine, said turbine-cooling system comprising a heat exchanger to cool the gas compressed by said compressor and a means for separating liquid from the gas cooled by the heat exchanger.

2. (Deleted)

3. A gas turbine unit comprising a compressor to compress and discharge gas, a combustor which the gas compressed by the compressor is fed to, and a turbine to be driven by the combustion gas of the combustor;

wherein said gas turbine unit has a turbine-cooling system to feed the gas from said compressor to the turbine, said turbine-cooling system comprising a heat exchanger to cool the gas compressed by said compressor, a liquid-separating means for separating liquid from the gas cooled by the heat exchanger, and

a dust-collecting means for separating dust, etc. from the gas having passed through the liquid-separating means.

4. A gas turbine unit comprising a first compressor to compress and discharge gas, a combustor which the gas compressed by the first compressor is fed to, and a turbine to be driven by the combustion gas of the combustor;

wherein said gas turbine unit has a turbine-cooling system to feed the gas from said first compressor to the turbine, said turbine-cooling system comprising a heat exchanger to cool the gas compressed by said first compressor and a second compressor to raise the pressure of the gas cooled by the heat exchanger to a desired level, and a dust-collecting means for separating dust, etc. from the gas whose pressure has been raised by the second compressor.

5. A gas turbine unit comprising a first compressor to compress and discharge gas, a combustor which the gas compressed by the first compressor is fed to, and a turbine to be driven by the combustion gas of the combustor;

wherein said gas turbine unit has a turbine-cooling system to feed the gas from said first compressor to the turbine, said turbine-cooling system comprising a heat exchanger to cool the gas compressed by said first compressor, a liquid-separating means for separating liquid from the gas cooled by the heat exchanger, and a second compressor to raise the pressure of the gas having passed through the liquid-separating means to a desired level.

6. A gas turbine unit comprising a first compressor to compress and discharge gas, a combustor which the gas compressed by the first compressor is fed to, and a turbine to be driven by the combustion gas of the combustor;

wherein said gas turbine unit has a turbine-cooling system to feed the gas from said first compressor to the turbine, said turbine-cooling system comprising a heat exchanger to cool the gas compressed by said first compressor, a dust-collecting means for separating dust, etc. from the gas cooled by the heat exchanger, and a second compressor to raise the pressure of the gas having passed through the dust-collecting means to a desired level.

7. A gas turbine unit comprising a first compressor to compress and discharge gas, a combustor which the gas compressed by the first compressor is fed to, and a turbine to be driven by the combustion gas of the combustor;

wherein said gas turbine unit has a turbine-cooling system to feed the gas from said first compressor to the turbine, said turbine-cooling system comprising a heat exchanger to cool the gas compressed by said first compressor, a liquid-separating means for separating liquid from the gas cooled by the heat exchanger, a dust-collecting means for separating dust, etc. from the gas having passed through the liquid-separating means, and a second compressor to raise the pressure of the gas having passed through the dust-collecting means to a desired level. LDC

a 8. A gas turbine unit as claimed in ~~any one of claims 5 through 7~~, wherein said turbine-cooling system comprises a dust-collecting means for separating dust, etc. from gas disposed below said second compressor.

9. A gas turbine unit comprising a first compressor to compress and discharge gas, a combustor which the gas compressed by the first compressor is fed to, and a turbine to be driven by the combustion gas of the combustor;

wherein said gas turbine unit has a turbine-cooling system to feed the gas from said first compressor to the turbine, said turbine-cooling system comprising a heat exchanger to cool the gas compressed by said first compressor, a liquid-separating means for separating liquid from the gas cooled by the heat exchanger, a first dust-collecting means for separating dust, etc. from the gas having passed through the liquid-separating means, a second compressor for raising the pressure of the gas having passed through the first dust-collecting means to a desired level, and a second dust-collecting means for separating dust, etc. from the gas whose pressure has been raised by the second compressor.

10. A gas turbine unit comprising a first compressor to compress and discharge gas, a combustor which the gas compressed by the first compressor is fed to, and a turbine to be driven by the combustion gas of the combustor;

wherein said gas turbine unit has a turbine-cooling system to feed the gas from said first compressor to the turbine to cool the turbine and to feed the gas from the turbine to the combustor, said turbine-cooling system comprising an indirect cooling heat exchanger to cool the gas compressed by said first compressor, a mist separator for separating liquid from the gas cooled by the heat exchanger, a cyclone for separating dust, etc. from the gas having passed through the mist separator, a second compressor to raise the pressure of the gas having passed through the cyclone to a desired level and a filter for separating dust, etc. from the gas whose pressure has been raised by the second compressor.

L C F

11. (Deleted)

12. (Deleted)

a 13. (After Amendment) A gas turbine unit as claimed in ~~any~~ ^{claim 5} ~~one of claims 5 through 7~~, wherein a means to measure the temperature of the gas cooled by the heat exchanger is provided.

a 14. (After Amendment) A gas turbine unit as claimed in ~~any~~ ^{claim 5} ~~one of claims 5 through 7~~, wherein a means to measure the temperature of the gas cooled by said heat exchanger and a means for controlling the supply of refrigerant to said heat exchanger in accordance with the temperature measured are provided.

15. A gas turbine unit comprising a first compressor to compress and discharge gas, a combustor which the gas compressed by the first compressor is fed to, and a turbine to be driven by the combustion gas of the combustor;

wherein said gas turbine unit has a turbine-cooling system to feed the gas from said first compressor to the turbine, said turbine-cooling system comprising a heat exchanger to cool the gas compressed by said first compressor, a means to measure the temperature of the gas cooled by the heat exchanger, a means for controlling the supply of refrigerant to said heat exchanger in accordance with the temperature measured, a liquid-separating means for separating liquid from the gas cooled by the heat exchanger, a first dust-collecting means for separating dust, etc. from the gas having passed through the liquid-separating means, a second compressor to raise the pressure of the gas having passed through the dust-collecting means to a desired level, and a second dust-collecting means for separating dust, etc. from the gas whose pressure has been raised by the second compressor, said second dust-collecting means being at least two filters disposed in parallel in the cooling system of the turbine.

16. A gas turbine unit comprising a first compressor to compress and discharge gas, a combustor which the gas compressed by the first compressor is fed to, and a turbine to be driven by the combustion gas of the combustor;

wherein said gas turbine unit has a turbine-cooling system to feed the gas from said first compressor to the turbine, said turbine-cooling system comprising a heat exchanger to cool the gas compressed by said first compressor, a dust-collecting means for separating dust, etc. from the gas cooled by the heat exchanger, ["] and a second compressor to raise the pressure of the gas having passed through the dust-collecting means to a desired level, said dust-collecting means being at least two filters disposed in parallel in the cooling system of the turbine. _{DC}

17. A gas turbine unit comprising a first compressor to compress and discharge gas, a combustor which the gas compressed by the first compressor is fed to, and a turbine to be driven by the combustion gas of the combustor;

wherein said gas turbine unit has a turbine-cooling system to feed the gas from said first compressor to the turbine, said turbine-cooling system comprising a heat exchanger to cool the gas compressed by said first compressor, a dust-collecting means for separating dust, etc. from the gas cooled by the heat exchanger, ["] and a second compressor to raise the pressure of the gas having passed through the dust-collecting means to a desired level, said dust-collecting means being at least two filters disposed in parallel in the cooling system of the turbine, a pressure detector being provided to detect the difference between the pressures before and after the filter, and passage opening-and-closing means being disposed above and below the cooling system of the filter to each _{DC, PM}

control the flow of the air into the filter.

18. A gas turbine unit comprising a first compressor to compress and discharge gas, a combustor which the gas compressed by the first compressor is fed to, and a turbine to be driven by the combustion gas of the combustor;

wherein said gas turbine unit has a turbine-cooling system to feed the gas from said first compressor to the turbine, said turbine-cooling system comprising a heat exchanger to cool the gas compressed by said first compressor, a liquid-separating means for separating liquid from the gas cooled by the heat exchanger, a first dust-collecting means for separating dust, etc. from the gas having passed through the liquid-separating means, a second compressor to raise the pressure of the gas having passed through the first dust-collecting means to a desired level, and a second dust-collecting means for separating dust, etc. from the gas whose pressure has been raised by the second compressor, said first dust-collecting means being at least two filters disposed in parallel in the cooling system of the turbine.

LDCD

19. A gas turbine unit comprising a compressor to compress and discharge gas, a combustor which the gas compressed by the compressor is fed to, and a turbine to be driven by the combustion gas of the combustor;

wherein said gas turbine unit has a turbine-cooling system to feed the gas from said compressor to the turbine, said

turbine-cooling system comprising a heat exchanger to cool the gas compressed by said compressor, and a separating means for separating liquid and dust, etc. from the gas cooled by the heat exchanger.

20. A gas turbine unit comprising a first compressor to compress and discharge gas, a combustor which the gas compressed by the first compressor is fed to, and a turbine to be driven by the combustion gas of the combustor;

wherein said gas turbine unit has a turbine-cooling system to feed the gas from said first compressor to the turbine, said turbine-cooling system comprising a heat exchanger to cool the gas compressed by said first compressor, a separating means for separating liquid and dust, etc. from the gas cooled by the heat exchanger, a second compressor to raise the pressure of the gas having passed through said separating means to a desired level, and a dust-collecting means for separating dust, etc. from the gas whose pressure has been raised by the second compressor.

Ltd, C, D

21. A gas turbine unit comprising a first compressor to compress and discharge gas, a combustor which the gas compressed by the first compressor is fed to, and a turbine to be driven by the combustion gas of the combustor;

wherein said gas turbine unit has a turbine-cooling system to feed the gas from said first compressor to the turbine, said turbine-cooling system comprising a heat exchanger to cool the gas compressed by said first compressor, a dust-collecting means for

DC Ltd

separating dust, etc. from the gas cooled by the heat exchanger, a second compressor to raise the pressure of the gas having passed through said dust-collecting means to a desired level, and a separating means for separating liquid and dust, etc. from the gas whose pressure has been raised by the second compressor.

22. A gas turbine unit comprising a first compressor to compress and discharge gas, a combustor which the gas compressed by the first compressor is fed to, and a turbine to be driven by the combustion gas of the combustor;

wherein said gas turbine unit has a turbine-cooling system to feed the gas from said first compressor to the turbine, said turbine-cooling system comprising a heat exchanger to cool the gas compressed by said first compressor, a dust-collecting means for separating dust, etc. from the gas cooled by the heat exchanger, a separating means for separating liquid and dust, etc. from the gas having passed through said dust-collecting means, and a second compressor to raise the pressure of the gas having passed through the separating means to a desired level.

P 40 C

23. A gas-turbine cooling method for a gas turbine unit comprising a compressor to compress and discharge gas, a combustor which the gas compressed by the compressor is fed to, and a turbine to be driven by the combustion gas of the combustor;

wherein said cooling method includes a process to cool the turbine by feeding the gas from said compressor to the turbine, said

cooling process comprising a step to cool the gas compressed by said compressor, and a step to separate liquid from the cooled gas.

24. (Deleted)

25. A gas-turbine cooling method for a gas turbine unit comprising a compressor to compress and discharge gas, a combustor which the gas compressed by the first compressor is fed to, and a turbine to be driven by the combustion gas of the combustor;

wherein the gas compressed by said compressor is cooled, the pressure of the gas cooled is raised to a desired level, and after dust, etc. are separated from the gas whose pressure has been raised, the gas is fed to the turbine so that the turbine may be cooled. C D

26. A gas-turbine cooling method for a gas turbine unit comprising a compressor to compress and discharge gas, a combustor which the gas compressed by the compressor is fed to, and a turbine to be driven by the combustion gas of the combustor;

wherein the gas compressed by said compressor is cooled, liquid is separated from the gas cooled, dust, etc. are separated from the separated gas, the pressure of the separated gas is raised to a desired level, and after dust, etc. are separated from the gas whose pressure has been raised, the gas is fed to the turbine so that the turbine may be cooled. V C D

27. A gas-turbine cooling method for a gas turbine unit comprising a compressor to compress and discharge gas, a combustor which the gas compressed by the compressor is fed to, and a turbine to be driven by the combustion gas of the combustor;

wherein the gas compressed by said compressor is cooled, and after liquid and dust, etc. are separated from the gas cooled, the gas is fed to the turbine so that the turbine may be cooled.

28. A gas-turbine cooling method for a gas turbine unit comprising a compressor to compress and discharge gas, a combustor which the gas compressed by the compressor is fed to, and a turbine to be driven by the combustion gas of the combustor;

said cooling method includes a first step to cool the gas compressed by said compressor, a second step to separate dust, etc. from the gas cooled, a third step to raise the pressure of the separated gas to a desired level, a fourth step to cool the turbine by feeding the gas whose pressure has been raised to the turbine, and a step, either between said second and third steps or between third and fourth steps, to separate liquid and dust, etc. from the gas.

D C 1
L+D L+D